



Pig Genome Update

No. 83 March 1, 2007

Chinese New Year, the Year of the Pig recently celebrated. For those that may not know the Chinese New Year is the longest and most important celebration in the Chinese calendar. The Chinese year 4705 began on February 18, 2007. In honor of the Year of the Pig, the International Journal of Biological Sciences (<http://biolsci.org/>) has launched a special issue on Swine Genome Science; edited by Dr. Zhihua Jiang, Washington State University and Dr. Max Rothschild, Iowa State University. Several leading scientists in the field of swine genomics have contributed six reviews to this special edition, which cover swine genome sequencing, mapping and evolution (Chen et al., IJBS 2007 3:153-165), swine transcriptomics (Tuggle et al., IJBS 2007 3:132- 152), swine and mammalian concordant QTL maps (Rothschild et al., IJBS 2007 3:192-197), swine whole genome linkage disequilibrium (Du et al., IJBS 2007 3:166-178), swine biomedical model genomics (Lunney, IJBS 2007 3:179-184) and the USDA efforts in agricultural animal genomics (Green et al., IJBS 2007 3:185-191). This series of papers offers the opportunity to all interested researchers to see the big picture of porcine genomics.

PAG-XV was held January 13-17, 2007 in San Diego and included some outstanding plenary talks and workshops. The new format included an evening plenary talk Sunday night by Martina Newell-McGloughlin on public perceptions of agricultural biotechnology. Other topics included micro-RNA diversity and its role in shaping genome evolution (e.g., plenary talks by David Bartel and Isidore Rigoutsos). Ian Baldwin and Detlef Weigel extended the reach of genomics “into the field” and “around the world”, looking at questions of ecology and speciation. Jerry Tuskan and Kirsten Lindblad-Toh described novel insights obtained from the sequences of the poplar, dog, horse and opossum genomes. The swine genome workshop was held Saturday and reviewed progress over the past years (see special ITBS addition discussed above). Finally the swine genome sequencing workshop highlighted the sequencing results obtained in the last year. Next year PAG-XVI will be held Jan. 12-18, 2008, at the same location. NRSP-8 will meet jointly with PAG. Ideas for speakers should be shared with Max Rothschild at mfroths@iastate.edu.

The Swine Genome Sequencing Workshop will next meet in St. Croix. The meeting will be held on Thursday, Friday and Saturday, March 15 to 17, 2007. The program will address specific issues of the sequencing project, identifying approaches to resolving issues, identifying approaches to ensure broad and rapid utilization of the sequence information, developing educational programs, and discussions on companion manuscripts for the sequencing paper. Meeting Registration and Hotel Reservation materials can be obtained at www.piggenome.org. Please register immediately so we can ensure proper hotel and meeting materials.

SNP chip under discussion. One of the issues discussed at the swine genome workshop was the need for a SNP chip in pigs. There has been some development in this area and a “private” chip of about 7.5K SNPs is under manufacture by Illumina for a group of European scientists. Max Rothschild and Gary Rohrer and some of the European research group met with Illumina personnel. We discussed the possibility of using these SNPs and others to produce a 10K chip. Gary has agreed to head a committee to work on this and the committee includes several other swine researchers. Look for developments to be reported in the future.

The new pig oligo arrays are here and can be ordered. Thanks to efforts of a number of groups and individuals we have developed a novel 70-mer oligonucleotide microarray for profiling expression of the pig (*Sus scrofa*) genome. The Swine Protein-Annotated Oligonucleotide Microarray has been developed as an OPEN SOURCE collaboration between investigators and institutions with an interest in pig physiology. The sequences of the oligonucleotides, the consensus sequences they represent, and the annotation of the consensus sequences are provided at no cost to the entire research community. New swine oligo arrays ordering can now be ordered (<http://www.pigoligoarray.org/>). Please note ordering depends on the source of your funding. Labs associated with agriculture (at US Colleges or Universities, US government laboratories, or foreign Universities or governments) please order using the "Arrays for USDA NAGRP-8 supported activities" button. If you are a PRRS researcher please order using the "Arrays for PRRS CAP supported activities" button. Commercial concerns (domestic or foreign) or any biomedical researchers (domestic or foreign) please order using the "Array for Biomedical and Commercial Applications" resource button. Validation of arrays will take place. Thanks to efforts of a number of the swine genome community a validation experiment, funded in part by the participants and the USDA Pig Genome Coordinator will take place over the next few months. The plan is to report the information to the community at the earliest possible date.

Pig Genome Update has gone electronic only beginning January 1. For those who used to get the hard copy version of this newsletter, it now will be distributed by email format **only** through Angenmap (<http://www.animalgenome.org/community/discuss.html>). Acrobat .pdf versions (with graphics) are also posted on our website at <http://www.animalgenome.org/pigs/newsletter/index.html>.

The CSREES FY 2006 National Research Initiative (competitive grant program) request for proposals can be found at http://www.csrees.usda.gov/funding/rfas/nri_rfa.html . Total FY 2006 NRI funding was \$181.7M. The House FY 2007 budget and the Senate Appropriations Committee allocated about \$190M for next year's NRI, but almost all appropriations bills failed to get through by the Oct. 1 deadline and it seems likely that another Omnibus Appropriations Act will be required, and one can never tell what that may contain. Note: next year's FY 2007 NRI applications will require electronic submission through <http://grants.gov/> (provided by Jerry Dodgson).

Upcoming meetings (see: <http://www.animalgenome.org/pigs/community/meetings.html>)

Swine Genome Sequencing Workshop, March 15-17, 2007 in St. Croix. Details can be seen at www.piggenome.org.

Chicken Development and Genomics, April 12-15, 2007, Barcelona, Spain. See www.lists.bbsrc.ac.uk/mailman/listinfo/chicken-genome

3rd International Conference on Quantitative Genetics, August 18-24, 2007, Zhejiang University, Hangzhou, China. Conference Organizers: Jun Zhu (jzhu@zju.edu.cn) and Zhao-Bang Zeng (zeng@stat.ncsu.edu)

Advances in Applied and Comparative Genomics, April 26,27 2007 in College Station, Texas to celebrate the impact James Womack has had on the field of comparative genomics Further information, program and registration are available at <http://www.cvm.tamu.edu/womacklab/index.htm>

Convergence of Genomics and the Land Grant Mission: Emerging Trends in the Application of Genomics in Agricultural Research, September 10-12, 2007, Purdue U., West Lafayette, Indiana. See=
www.entm.purdue.edu/conference.

International Symposium on Animal Genomics for Animal Health, October 23-25, 2007, OIE Headquarters, World Organization for Animal Health, Paris, France. For information contact Cyril Gay, cyril.gay@ars.usda.gov, or Marie-Hélène Pinard, pinard@dga2.jouy.inra.fr

Items for *Pig Genome Update 84* can be sent to me by no later than April 15 please.

*Max F. Rothschild
U.S. Pig Genome Coordinator
2255 Kildee Hall
Department of Animal Science
Iowa State University
Ames, Iowa 50011
Phone: 515-294-6202
Fax: 515-294-2401
mfrothsc@iastate.edu
<http://www.genome.iastate.edu>*

cc: Muquarrab A. Qureshi, CSREES and Caird Rexroad II, ARS

Paid for by funds from the NRSP-8 USDA/CSREES sponsored Pig Genome Coordination Program.